

Water

DPR's surface water program identifies pesticides that may pollute rivers and other waterways and finds ways to prevent future contamination. Simply canceling all uses of a detected pesticide can have unintended effects. People often turn to other pesticides that can cause the same or other problems. For example, several years ago, because of health concerns and environmental effects, the federal government banned the home and urban uses of two insecticides, chlorpyrifos and diazinon. Consumers and structural pest control applicators started using products containing pyrethroids, which resulted in new environmental concerns.

PYRETHROID REEVALUATION

DPR's approach is to find where and how pesticides get into water and then create strategies to solve the problem. For example, after studies showed troublesome pyrethroid residues in creek and stream sediment, DPR placed all pyrethroid products into reevaluation in 2006. (See "What is reevaluation?" in box, right.)

Pyrethroids, a class of insecticides originally from chrysanthemum flowers, are used in both agricultural and urban settings. In urban areas, their uses include pet care, structural pest control, lawn and garden maintenance,

and indoor insect sprays and foggers. Pyrethroids are relatively nontoxic to people and terrestrial animals. However, runoff into creeks and streams – where they collect in sediment – can be toxic to aquatic life.

In 2006, DPR ordered about 120 makers of more than 600 pyrethroid products to provide information to help DPR assess the effect their products have on the environment. No other pesticide regulatory agency in the country has ever tried to evaluate an entire class of pesticide products. DPR is working with other experts at the State and Regional Water Boards, water treatment plants, and storm water agencies to find out how pyrethroids move away from where they are applied. That will give us a solid, science-based foundation for developing solutions to the problem.

UPDATE: DIAZINON AND CHLORPYRIFOS

Meanwhile, DPR is working with registrants of diazinon and chlorpyrifos products to keep these pesticides out of surface water. DPR placed these organophosphate (OP) insecticides, widely used in agriculture, into reevaluation in 2002 and 2003. In response, registrants changed label application instructions and will

monitor rivers and streams to prove the changes they made can solve contamination problems.

To encourage growers to use less-toxic insecticides, DPR is also working with Central Valley growers on alternative pest management methods for stone fruit and grapevines.

NEW DORMANT SPRAY RULES

To tackle the problem of OPs from another direction, DPR put rules into place in August 2006 to control insecticide sprays during the dormant season. During winter, pesticides are applied to dormant tree and vine crops to kill overwintering pests and diseases. But many pesticides used as dormant sprays (including OPs and pyrethroids) cause problems when drift occurs or when rainfall washes residues into rivers and streams. The new rules restrict the use of most dormant insecticides when residues can run off into water.

COPPER CONTAMINATION IN BOAT HARBORS

DPR is taking on another problem in the State's waterways: copper contamination, mainly from "antifouling" paints used to keep algae and other marine life from attaching to boat

*I like working for DPR and Cal/EPA.
Reducing our ecological footprint and encouraging pesti-
cide users to do the same is something I enjoy.*

DENISE WEBSTER



Denise Webster

Pesticide Registration Branch

Denise, with DPR since 1999, is now our Reevaluation Coordinator. Reevaluation is a tool DPR uses to find out whether specific pesticides are harming human health or the environment. DPR requires pesticide makers to provide data for our scientists to discover what impacts, if any, the products are having on human health or the environment. If we find significant harm, the next step is to determine how to prevent it. To do this, we need solid, scientific data. Coordinating reevaluation means acting as liaison to make sure pesticide makers understand the information DPR requires. She also helps pesticide makers work together to develop the data DPR needs.

hulls. For example, in some areas of San Diego Bay, copper has been detected at levels that can be toxic to aquatic organisms. Studies showed that antifouling paints contributed most of this copper contamination.

To find out if contamination associated with antifouling paints is a statewide problem, the State Water Board is funding water sampling by DPR at 23 salt and freshwater marinas throughout the State. The results, due in mid-2007, will decide our next steps.

PREVENTING GROUND WATER CONTAMINATION

DPR scientists are monitoring ground water to check on the effectiveness of new controls that went into effect in 2004. The rules limit the use of certain pesticides in areas classified as vulnerable to ground water contamination. DPR scientists made new rules possible when they developed computer model-

ing that identified vulnerable areas of the state. They created the model using almost 20 years of DPR well monitoring data, along with soil data and climate information. The new rules moved DPR's ground water program from a reactive to a preventive approach.

DPR is also taking part in an inter-agency task force led by the State Water Board that is working to improve ground water monitoring and assessment. Participation simplifies the exchange of technical information between the two agencies. This has helped better focus joint efforts to develop new or improve existing methods of testing for pesticides in ground water.

Water Board staff have also tapped into DPR's ground water database to help the water agency identify areas that may be vulnerable to contamination from chemicals other than pesticides.

WHAT IS REEVALUATION?

The Department uses reevaluation to require pesticide makers to provide the data DPR scientists need to find out why pesticides are causing problems – whether the problems are related to human health or environmental harm. Then, working with the companies, we can develop effective solutions that target the problematic uses.